Status of CMIP-endorsed MIP documentation

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Charge and response

"… issues/challenges around documentation of the MIPs. What worked well? What didn't work and how might we fix that in CMIP7? Do we need to think about a more flexible system for documenting the MIPs and allow for evolution? If so, what would be the mechanism?"

Input was solicited from MIP co-chairs. Some responded with other hats on (modeling lead, journal editor, …) Input was solicited from "infrastructure." We will seek further input especially from downstream users

Who does documentation serve?

Documentation serves (at least) three distinct communities

Scientists interested in MIP results, especially MIP chairs and participating modeling groups, with substantial overlap

Infrastructure e.g. for planning resource requirements, finding common ground among experiments, …

“Downstream users” from analysts to climate services organizations to reinsurance companies to …

The burden for MIP documentation falls primarily on MIP originators

(Similarly, model documentation falls on modeling groups)

MIP chairs' perspective

Documentation consists of

GMD papers

data request

ES-DOC (*post hoc*)

The CMIP6 process was reasonably effective and somewhere between an acceptable burden and a serious challenge

GMD papers were considered valuable

Data request was valuable, though cumbersome and not always effective

Structured experimental documentation was not considered useful

Common themes

Flexibility is key

Experiments need changing/amending/adding, require communication MIPs <-> modeling groups and MIPs -> infrastructure -> downstream users.

Timely communication is key

Documentation can focus resources by exposing cost and benefits, identifying inconsistencies and redundancies

Cost and benefit are asymmetrically distributed

E. g. structured documentation is seen to burden “scientists” for the (perceived) benefit of downstream users, though this may ignore issues of inclusivity

Spillover

I asked about MIP documentation; many people volunteered thoughts on model documentation.

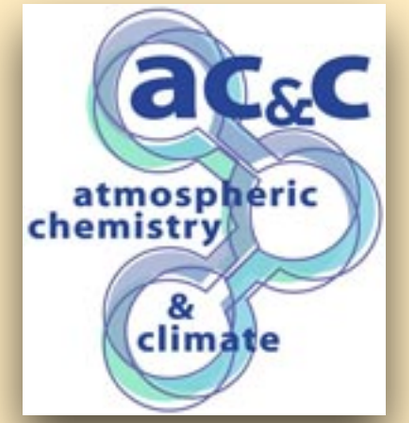
MIP respondents found structured descriptions to be unhappily rigid. Some MIPs developed ground-up solutions (e.g. spreadsheets with model information)

Infrastructure respondents believe model documentation to be a nearly-solved problem

The desire for structured model descriptions seems to come from infrastructure and possibly downstream users

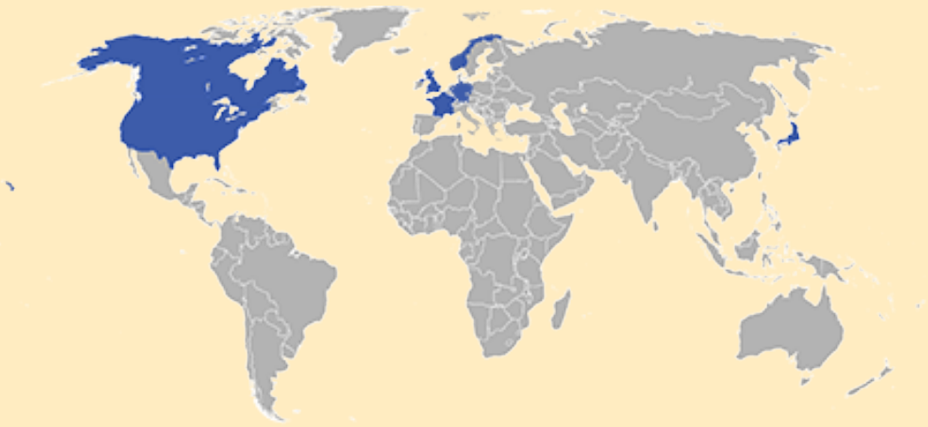
Context: many MIPs thrive outside of CMIP

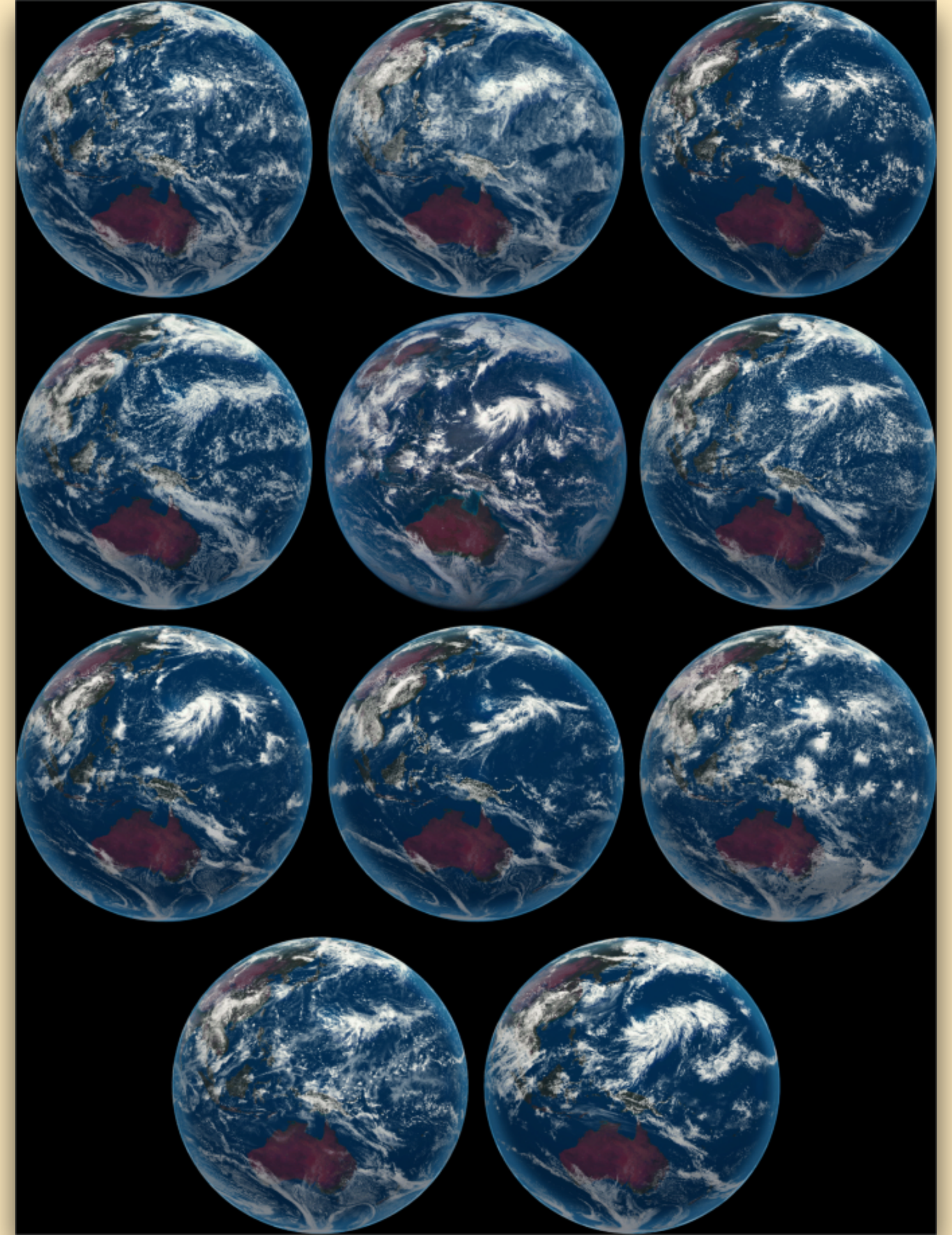
Some are "like CMIP" in the sense of having experiments with global models



- PDRMIP -

Precipitation Driver Response Model Intercomparison Project





A proposal to spark discussion

Focus effort

Some small number of MIPs/activities - the DECK, scenarios, ERF characterization - are used across many communities. These require careful, thorough, widely-accessible documentation. Focus tools on these applications.

Enable, don't require

Many MIPs require more agility - to be tied less tightly to CMIP timelines, to adapt protocols as they arise, to accommodate the unforeseen. These activities might follow documentation standards where useful, or not